Appl. No. 10/075,075

Amdt. dated: March 4, 2005

Reply to Final Office Action of October 4, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-11 (canceled)

- 12. (presently amended) An isolated protein, wherein said protein is a KChAP potassium channel associated protein or a derivative thereof, wherein said protein comprises an amino acid sequence having at least 85% identity with the amino acid sequence shown in Fig. 2, as set forth in SEQ ID NO: 2 or the amino acid sequence shown in Fig. 3, SEQ ID NO: 4, or the amino acid sequence set forth in SEQ ID NO: 6.
- 13. (previously presented) The isolated protein of claim 12, wherein said protein binds to Kvα subunits Kv2.1, Kv2.2, Kv1.3, and Kv4.3.
- 14. (presently amended) The An isolated protein of claim-12 that binds to Kvα subunits Kv2.1, Kv2.2, Kv1.3, and Kv4.3, wherein said protein comprises an amino acid sequence having at least 95% identity with the amino acid sequence shown set forth in in Fig. 2, SEQ ID NO: 2 or the amino acid sequence shown in Fig. 3, SEQ ID NO: 4, or the amino acid sequence set forth in SEQ ID NO: 6.
- 15. (presently amended) An isolated peptide comprising the Kvα/Kv β binding domain of KChAP a potassium channel associated protein, wherein said peptide comprises the amino acid sequence of SEQ ID. NO:5, SEQ ID NO: 7, or SEQ ID NO:10.
- 16. canceled
- 21. (presently amended) The isolated protein of claim 12 14, wherein said protein comprises a Kvaα/Kvβ binding domain having the amino acid sequence set forth in SEQ ID NO: 5, SEQ ID NO: 7, or SEQ ID NO: 10.

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- 22. (previously presented) The isolated protein of claim 12, wherein said protein binds to $Kv\beta1.2$.
- 23. (presently amended) The isolated protein of claim $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$.
- 24. canceled
- 25. (presently amended) The isolated peptide of claim 16 15, wherein said peptide binds to Kvα subunits Kv2.1, Kv2.2, Kv1.3, and Kv4.3.
- 26. (presently amended) The isolated peptide of claim $\frac{16}{15}$, wherein said peptide binds to Kv β 1.2.
- 27. (presently amended) The isolated peptide of claim $\frac{16}{15}$, wherein said peptide binds to Kv α subunits Kv2.1, Kv2.2, Kv1.3, and to the Kv β subunit Kv β 1.2.
- 28. Canceled.
- 29. Canceled
- 30. (new) The isolated protein of claim 12, wherein said protein comprises SEQ ID NO: 2.
- 31. (new) The isolated protein of claim 12, wherein said protein comprises SEQ ID NO: 4.
- 32. (new) The isolated protein of claim 12, wherein said protein comprises SEQ ID NO: 6.
- 33. (new) The isolated protein of claim 14, wherein said protein comprises SEQ ID NO:5.
- 34. (new) The isolated protein of claim 14, wherein said protein comprises SEQ ID NO: 7.
- 35. (new) The isolated protein of claim 14, wherein said protein comprises SEQ ID NO:10.
- 36. (new) The isolated peptide of claim 15, wherein said peptide comprises SEQ ID NO: 5.
- 37. (new) The isolated peptide of claim 15, wherein said peptide comprises SEQ ID NO: 7.
- 38. (new) The isolated peptide of claim 15, wherein said peptide comprises SEQ ID NO: 10.